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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,346	09/05/2003	Reiner Raffel	PO7786/HE-171	7800
157 7590 10/26/2007 BAYER MATERIAL SCIENCE LLC 100 BAYER ROAD PITTSBURGH, PA 15205			EXAMINER COONEY, JOHN M	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 10/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/656,346	<b>Applicant(s)</b> RAFFEL ET AL.	
	<b>Examiner</b> John Cooney	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's arguments filed 8-8-07 have been fully considered but they are not persuasive.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Althausen et al.(5,840,778).

Althausen et al. discloses methods for preparing polyurethane foams by mixing and metering into a mixing chamber area and reacting materials including polyol, isocyanate, carbon dioxide and water wherein the process includes generating bubble nuclei due to pressure reduction in the direction of the downstream flow by a body reading on the throttle body as claimed, and application of the material to a surface utilizing pressure conditions, mixers, pressure-reduction bodies, and adjustable orifices and valves in order to arrive at processes and apparatuses reading on those claimed by applicants (see the entire document). Althausen et al. provides for employment of static mixers as mixers used in mixing components of their invention (see column 5 lines 23-24). Accordingly, it is held that selection of a static mixer to perform the function of a mixing apparatus is an embodiment that is readily envisioned from the teachings of Althausen et al.

Applicants' arguments have been considered. However, rejection is maintained. An "opening extending over a length of at least 1 mm in the direction of flow" and passage "through a sieve" are embodiments not provided for by limitation in applicants' claims. Static mixers are provided for by the teachings of Althausen et al. as indicated in the statement of the rejection above.

Claims 1, 2, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sulzbach et al. (5,643,970).

Sulzbach et al. discloses methods for preparing polyurethane foams by mixing and metering into a mixing chamber area and reacting materials including polyol, isocyanate, carbon dioxide and water wherein the process includes generating bubble nuclei due to pressure reduction in the direction of the downstream flow by a body reading on the throttle body as claimed, and application of the material to a surface utilizing pressure conditions, mixers, and pressure-reduction bodies in order to arrive at processes and apparatuses reading on those claimed by applicants (see the entire document). Sulzbach et al. provides for employment of static mixers as mixers used in mixing components of their invention (see column 5 line 67 – column 6 line 1). Accordingly, it is held that selection of a static mixer to perform the function of a mixing apparatus is an embodiment that is readily envisioned from the teachings of Sulzbach et al.

Applicants' arguments have been considered. However, rejection is maintained. Sulzbach et al. provides for control of flow of its mixture through an adjustable flow channel meeting the adjustable orifice requirements for the pressure reduction body requirements of applicants' claims, and an orifice sealing mechanism at the downstream portion of the flow channel such that the valve requirements of applicants' claims are met. Static mixers are provided for by the teachings of Sulzbach et al. as indicated in the statement of the rejection above.

Claims 1, 2, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sulzbach et al. (6,019,919).

Sulzbach et al. discloses methods for preparing polyurethane foams by mixing and metering into a mixing chamber area and reacting materials including polyol, isocyanate, carbon dioxide and water wherein the process includes generating bubble nuclei due to pressure reduction in the direction of the downstream flow by a body reading on the throttle body as claimed, and application of the material to a surface utilizing pressure conditions, mixers, and pressure-reduction bodies in order to arrive at processes and apparatuses reading on those claimed by applicants (see the entire document). Sulzbach et al. provides for employment of static mixers as mixers used in mixing components of their invention (see column 5 lines 60– 61). Accordingly, it is held that selection of a static mixer to perform the function of a mixing apparatus is an embodiment that is readily envisioned from the teachings of Sulzbach et al. Further,

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Sulzbach et al. provides for control of flow of its mixture through an adjustable flow channel meeting the adjustable orifice requirements for the pressure reduction body requirements of applicants' claims, and an orifice sealing mechanism at the downstream portion of the flow channel such that the valve requirements of applicants' claims are met.

Applicants' arguments have been considered. However, rejection is maintained. Static mixers are provided for by the teachings of Sulzbach et al. as indicated in the statement of the rejection above, and difference based on this limitation is not seen.

The following are set forth in addition to or in the alternative to the above rejections:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2, and 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Althausen et al.('778) & Sulzbach et al. ('970 & '919), each taken individually.

Althausen et al. and Sulzbach et al., each taken individually, disclose methods for preparing polyurethane foams by mixing and metering into a mixing chamber area and reacting materials including polyol, isocyanate, carbon dioxide and water wherein

the process includes generating bubble nuclei due to pressure reduction in the direction of the downstream flow by a body reading on the throttle body as claimed, and application of the material to a surface utilizing pressure conditions, mixers, and pressure-reduction bodies in order to arrive at processes and apparatuses as claimed by applicants (see the entire document). Further, Sulzbach et al. provides for control of flow of its mixture through an adjustable flow channel meeting the adjustable orifice requirements for the pressure reduction body requirements of applicants' claims, and an orifice sealing mechanism at the downstream portion of the flow channel such that the valve requirements of applicants' claims are met (see figures and associated description).

Althausen et al. and Sulzbach et al. differ from applicants' claims in that the mixing chamber used to mix their reactive components is not particularly identified as being static. However, the disclosure of Althausen et al. and Sulzbach et al. each provides for employment of static mixers as being acceptable mixers for the purpose of mixing components of their invention (see columns 5 & 6 of each). Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the static mixer disclosed in each of teachings of Althausen et al. and Sulzbach et al. as the mixer employed in the mixing chamber of the processes and apparatuses in each of teachings of Althausen et al. and Sulzbach et al. for the purpose of providing the mixing effect in order to arrive at the processes and apparatuses of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

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Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rill, Jr. et al.(3,220,801) in view of Sulzbach et al.('919).

Rill, Jr. et al. discloses polyurethane foam forming metering apparatuses employing mixing elements, valves, and nozzles arranged as claimed by applicants (see the entire document).

Rill, Jr. et al. differs from applicants' claims in that it does not include or require a static mixer alone or in addition to the mechanically agitating mixer of its disclosure. However, Sulzbach et al. provides for employment of static mixers for the purpose of providing acceptable mixing of components in urethane synthesis(see column 5 line 60-61). Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the static mixer disclosed by Sulzbach et al. as the sole or an additional mixer employed in the mixing chamber of the apparatuses of Rill, Jr. et al. for the purpose of providing an energy conserving mixing effect in order to arrive at the processes and apparatuses of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results. Substituting a static mixer for a mechanically assisted mixer would have been a substitution within the skill of the ordinary practitioner if energy saving were an interest and concern. Including a static mixer in addition to the mechanically assisted mixer of Rill,Jr. et al. would have been within the skill of the ordinary practitioner if improved mixing efficiency were desired without added energy cost.



### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1,2, 4-13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,809,124. Although the conflicting claims are not identical, they are not patentably distinct from each other because the methods and devices of the claims overlap in features and a manner which would have been obvious to one having ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants' arguments have been considered. However, rejection is maintained as set forth above to reflect added/cancelled claims and the passage of the 10/311,394 application's claims to issue. Applicants' indication of addressing this rejection upon indication of allowable subject matter is acceptable.

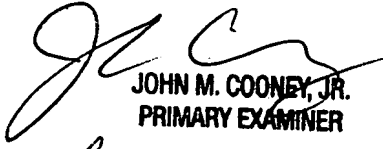
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Cooney whose telephone number is 571-272-1070. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JOHN M. COONEY, JR.  
PRIMARY EXAMINER  
Group 1700